

REMARKS

Claims 1-40 are pending. By this Amendment, claims 1, 5, 12, 22 and 28 are amended to more particularly point out Applicants' claimed invention. No new matter is introduced by the present Amendment. Claims 1-40 currently stand as rejected, and Applicants respectfully request the reconsideration of the rejections based upon the following remarks.

Rejections Under 35 U.S.C. § 112, First Paragraph

The Examiner rejected claims 1, 5, 12, 22, 28 and 32 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. More specifically, the Examiner asserted that “[t]he notation of a linking group and what applicants mean by the notation [---]<sub>n</sub> would not be clear to enable one skilled in the art to make the charge transport composition. (\*) is not in the claims and the disclosure of terminal groups on the polymer-is not shown by examples in the specification.” Applicants respectfully request reconsideration of the rejection based upon the following comments.

Applicants have amended independent claims 1, 12, 22 and 28 to remove the (\*) from the claims. However, it is clear that a polymer will have terminal groups, which may or may not be the same between different polymer chains. For clarity, Applicants have dropped this notation. Additionally, Applicants submit that the notation [---]<sub>n</sub> used in the claims clearly indicates that the whole structure within the square brackets repeats such that X<sub>1</sub> group of one repeating unit is bonded to the X<sub>2</sub> group of an adjacent repeating unit. Thus, each repeat unit has two hydrazone groups bonded together with a bridging group Z. Moreover, since the notation used in the claims is clear, and the specification provides detailed synthetic approaches for producing the claimed charge transport compounds, one of ordinary skill in the art could make and use the invention commensurate with the scope of the claims, and therefore the claims are fully enabled. Since the

claimed invention is fully enabled, Applicants respectfully request the withdrawal of the rejection of claims 1, 5, 12, 22, 28 and 32 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

Rejections Under 35 U.S.C. § 112, Second Paragraph

The Examiner rejected claims 1-40 under 35 U.S.C. § 112, second paragraph, as being indefinite. More specifically, the Examiner asserted that, “Applicants’ claims relate to an extremely large number of possible compounds/apparatus/products and methods. Support within the disclosure is to a small number within this infinite group.” Applicants submit that the claims are definite, and respectfully request reconsideration of the rejection based on the following comments.

“Breath of a claim is not to be equated with indefiniteness.” See MPEP § 2173.04. “If the scope of the subject matter embraced by the claims is clear, and if applicants have not otherwise indicated that they intend the invention to be of a scope different from that defined in the claims, the claims comply with 35 U.S.C. § 112, second paragraph.” Id. Applicants submit that the scope of the claims is clear, and therefore the claims are definite. Moreover, Applicants submit that the scope of the claims is commensurate with the scope of enablement. More specifically, the synthetic approaches described on pages 25-35 of the specification can be used to generate a large number of compounds within the scope of the claims. As such, the claims are commensurate with the scope of the enablement, and thus the claims are fully enabled by the specification. The Examiner has not asserted a case for *prima facie* indefiniteness.

Since the claims are definite, Applicants respectfully request the withdrawal of the rejection of claims 1-40 under 35 U.S.C. § 112, second paragraph, as being indefinite.

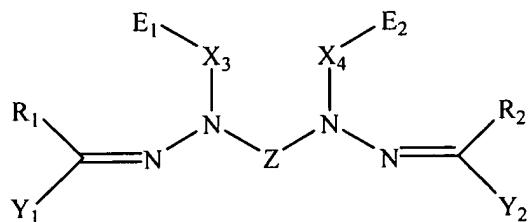
Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 36-40 under 35 U.S.C. § 102(a) as being anticipated by, or in the alternative obvious over, U.S. Patent 6,815,133 to Law (the ‘133 patent) or EP 1 310 489 (the EP reference). More specifically, the Examiner asserted that “[b]oth teach the organophotoreceptor with a hydrazone charge transport composition which has alkly groups, hydrocarbon groups, cycloalkyl groups or aryl groups.” Applicants submit that neither the ‘133 patent nor the EP reference prima facie anticipate, or in the alternative render prima facie obvious, Applicants’ invention, as claimed in independent claim 36. Applicants respectfully request reconsideration of the rejection based on the following comments.

The ‘133 patent relates to charge transport compounds having a first nitrogen atom bonded to an R<sub>1</sub> group and a second nitrogen atom bonded to an R<sub>2</sub> group, wherein R<sub>1</sub> and R<sub>2</sub> are, independently, a hydrogen, a branched or linear alkyl group, a branched or linear unsaturated hydrocarbon group, an ether group, a cycloalkyl group, or an aryl group. With respect to the EP reference, the EP reference relates to charge transport compounds having a first nitrogen atom bonded to a R<sub>3</sub> group and a second nitrogen atom bonded to a R<sub>4</sub> group, wherein R<sub>3</sub> and R<sub>4</sub> are, independently, hydrogen, an alkyl group, an aryl group or a heterocyclic group. However, neither the ‘133 patent nor the EP reference relates to **polymeric** charge transport compounds, and thus neither reference discloses or suggests a charge transport composition prepared by co-polymerizing a multi-functional compound comprising at least 2 active hydrogens selected form the group consisting of hydroxyl hydrogen, amino hydrogen, carboxyl hydrogen, and thiol hydrogen with a reactive-ring compound.

In contrast, Applicants’ invention, as presently claimed independent claim 36, relates to a polymeric charge transport composition prepared by co-polymerizing a multi-functional compound comprising at least 2 active hydrogens selected form the group consisting of hydroxyl

hydrogen, amino hydrogen, carboxyl hydrogen, and thiol hydrogen with a reactive-ring compound having the following formula



wherein Y<sub>1</sub>, Y<sub>2</sub>, R<sub>1</sub>, R<sub>2</sub>, X<sub>3</sub> and X<sub>4</sub> are as specified in Applicants' claim.. Additionally, the specification discloses that reactive ring groups E<sub>1</sub> and E<sub>2</sub> include, for example, an epoxy ring, a thiiranyl group, an aziridinyl group, and an oxetanyl group. See specification at, for example, page 26, lines 19-20. Since neither the '133 patent nor the EP reference disclose or suggest this feature of Applicants' claimed invention, neither the '133 patent nor the EP reference prima facie anticipate, or in the alternative render prima facie obvious, Applicants' invention, as presently claimed in independent claim 36.

Since neither the '133 patent nor the EP reference prima facie anticipate, or in the alternative render prima facie obvious, Applicants' invention, as presently claimed in independent claim 36, Applicants respectfully request the withdrawal of the rejection of claims 36-40 under 35 U.S.C. § 102(a) as being anticipated by, or in the alternative obvious over, the '133 patent or the EP reference.

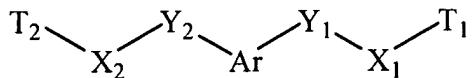
#### Double Patenting Rejection

##### 1. Rejections Over Co-pending Application 10/749,178

The Examiner provisionally rejected claims 1-40 on the grounds of non-statutory double patenting over claims 1-74 of co-pending application 10/749,178. Applicants submit that the

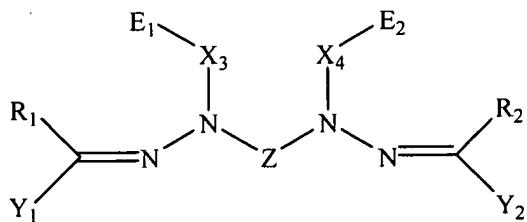
claims of the '178 application do not render Applicants' invention prima facie obvious. Applicants respectfully request reconsideration of the rejection based on the following comments.

The claims of the '178 application relate to a charge transport material having the formula



wherein  $T_1$  and  $T_2$  are, each independently, a thiiranyl group, H, an alkyl group, an alkenyl group, or an aromatic group with the proviso that at least one of  $T_1$  and  $T_2$  is a thiiranyl group. As such, the claims of the '178 application does not disclose or suggest a charge transfer material that is a polymer having a repeating unit comprising an arylamine group at each end of the repeating unit.

In contrast, Applicants' invention, as claimed in independent claims 1, 12, 22 and 28, relate to a charge transport compound that is a polymer, wherein the repeating unit comprises an arylamine group ( $Y_1$  and  $Y_2$ ) bonded to each end of the repeating unit. With respect to independent claim 36, that claim relates to a charge transport composition prepared by co-polymerizing a multi-functional compound comprising at least 2 active hydrogens selected from the group consisting of hydroxyl hydrogen, amino hydrogen, carboxyl hydrogen, and thiol hydrogen with a reactive-ring compound having the following formula



where  $Y_1$  and  $Y_2$  are, each independently, an arylamine group, and wherein  $E_1$  and  $E_2$  are, each independently, a reactive ring group. Since the claims of '178 application does not disclose or suggest all of the features of Applicants' claimed invention, the claims of the '178 Application

do not render Applicants' claimed invention prima facie obvious. As such, Applicants respectfully request the withdrawal of the rejection of claims 1-40 on the grounds of nonstatutory double patenting over claims 1-74 of the '178 application.

2. Rejections Over Co-pending Application 10/749,269

The Examiner provisionally rejected claims 1-40 on the grounds of non-statutory double patenting over claims 1-46 of co-pending application 10/749,269. Applicants have included an appropriate Terminal Disclaimer, and respectfully request the withdrawal of the rejection of claims 1-40 on the grounds of non-statutory double patenting over claims 1-46 of co-pending application 10/749,269.

CONCLUSION

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



Brian L. Jarrells  
Registration No. 53,067

Customer No. 24113  
Patterson, Thuente, Skaar & Christensen, P.A.  
4800 IDS Center  
80 South 8th Street  
Minneapolis, Minnesota 55402-2100  
Telephone: (612) 252-1535